UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/084,115	02/25/2002	Jeff Solum	100.255US01	6841

34206 7590 10/12/2005

FOGG AND ASSOCIATES, LLC
P.O. BOX 581339
MINNEAPOLIS, MN 55458-1339

EXAMINER	
NGUYEN, THUAN T	

ART UNIT	PAPER NUMBER
2685	

DATE MAILED: 10/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/084,115	SOLUM, JEFF	
	Examiner	Art Unit	
	THUAN T. NGUYEN	2685	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-36 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-36 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 25 February 2002 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> *A person shall be entitled to a patent unless --*
> *(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.*

2. Claims 1-36 are rejected under 35 U.S.C. 102(e) as being anticipated by Kintis et al. (U.S. Patent No. 6,535,720 B1).

Regarding claim 1, Kintis discloses "a wireless distribution system, comprising: a plurality of remote units distributed in a coverage area to receive wireless signals; a plurality of input ports to receive signals comprising the wireless signals provided by the plurality of remote units; a plurality of input power monitors operatively connected to one or more of the plurality of input ports to determine power levels of signals received at the input ports; a plurality of variable gain controllers to control the gain of signals received at the one or more of the plurality of input ports in response to a plurality of corresponding control signals; a node to combine a plurality of signals from the plurality of input ports; and a controller to provide the plurality of corresponding control signals to individually control each of the variable gain controllers" (Fig. 1, and col. 1/line 59 to col. 3/line 57).

As for claims 2-4, Kintis discloses "wherein the controller provides control signals based on a weighting function"; "wherein the weighting function is proportional to power levels determined by the input power monitors such that a combined power does not exceed a predetermined level"; and "comprising a combined power monitor to determine the combined power level of signals combined at the node" (col. 3/lines 20-31).

As for claims 5-7, Kintis further discloses "wherein the plurality of input power monitors are operatively connected to the plurality of input ports to determine power levels of signals received at the input ports so that an upstream combined signal level does not exceed a predetermined level"; "wherein the signals received at the input ports comprise a frequency spectrum that is digitized for distribution over the wireless distribution system"; and "wherein the digitized wireless spectrum is transmitted, at least in part, over a fiber optic transmission line" (Figs. 1 & 2, and col. 5/line 40-67 for digital based power control system, with power detection system as noted in col. 4/lines 10-58, with a plurality of reference signals setting for controlling the power levels of the wireless digital distribution system).

As for claims 8 and 9, Kintis discloses " wherein one or more of the variable gain controllers comprises a filter" and "wherein the filter comprises an adaptive filter" (col. 6/lines 15-19 for a multi-carrier filter 113 regarding as an adaptive filter for filtering multi-carrier signals).

As for claim 10, Kintis discloses "comprising a transmission link to transmit the signals combined at the node to at least one upstream node where the combined signals may be further combined with other signals" (Fig. 1 at combined upstream node 30, refer to col. 3/lines 1-19).

As for claim 11, Kintis shows further "comprising at least one combined power monitor operatively connected to an output of the upstream node to monitor the power level of the signals combined at the at least one upstream node and at least one variable gain controller to control the power level of signals input to at least one upstream node such that the power level at the upstream node does not exceed a predetermined level" (col. 4/lines 10-col. 5/line 8, with the power limiter within the power detection system for monitoring and detecting the power levels under the comparison between active reference power levels).

Regarding claims 12-14, Kintis discloses "a method for controlling the signal levels of a wireless distribution system, the method comprising: receiving wireless signals at a plurality of remote units distributed in a coverage area; providing signals from the remote units to a plurality of input ports; monitoring input power levels of the signals received at one or more of the plurality of input ports; combining signals from the plurality of input ports at a node; determining individual control signals for each of the input ports based on a weighting function that is proportional to the monitored input power levels such that the combined power does not exceed a predetermined level, and gain controlling the signals received at the input ports in response to the control signals"; "comprising monitoring the combined power level of signals combined at the node" and "a method for controlling the signal levels of a wireless distribution system, the method comprising: receiving wireless signals at a plurality of remote units distributed in a coverage area; providing signals from the remote units to a plurality of input ports; monitoring the input power level of the signals received at each of the input ports; controlling the gain of the signals received at each of the input ports in response to a control signal; combining the signals from the plurality of input ports at a node; monitoring power levels

of the combined signals; determining weights for a weighting function that is proportional to power received at each input port, as determined by the input power monitors such that the power of the combined signals does not exceed a predetermined level; and providing the control signals to each input port based on the weighting function" (refer to claims 1-11 above for same features in the system claims as in the method claims).

Regarding claims 15-17 and 28-22, these claims for "a wireless distribution system, comprising: a plurality of remote units distributed in a coverage area to receive wireless signals and to provide the wireless signals through the distribution system to one or more input ports; a plurality of input power monitors operatively connected to the one or more input ports to determine power levels of the wireless signals received at the input port; a plurality of variable gain controllers to control the gain of the wireless signals received at the one or more input ports based on a predetermined threshold wherein a saturation level is not reached"; and "a wireless distribution system comprising: a plurality of remote units distributed in a coverage area to receive wireless signals and to provide the wireless signals through the distribution system to one or more input ports; a plurality of input power monitors operatively connected to one or more of the input ports to determine power levels of the wireless signals received at the input ports; a plurality of variable gain controllers to control the gain of the wireless signals received at one or more of the input ports; a node to combine the wireless signals from the plurality of input ports; a combined power monitor to determine a power level of the signals combined at the node; and a controller to provide control signals to control one or more of the variable gain controllers so that an overflow condition does not occur at the node" with its corresponding method are rejected for the reasons given in the scope of system claims 1-11 as disclosed above.

Regarding claim 23-31 and 32-36, these claims for "a digital expansion unit, comprising: a plurality of input ports to receive signals from a plurality of digital remote units distributed in a coverage area; a node to digitally combine signals from the input ports; a plurality of input power monitors operatively connected to one or more of the input ports to determine the level of signals received at the input ports, a plurality of gain controllers to adjust the gain of signals received at some or all of the input ports; a combined power monitor to determine the combined signal level of signals combined a t the node; and a controller to provide control signals to control one or more of the gain controllers wherein an overflow condition is avoided for signals combined at the node" and "a wireless distribution system comprising one or more digital expansion units" with its corresponding method are rejected for the reasons given in the scope of system claims 1-11 as disclosed above.

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Heidmann et al, Clifford, and Naidu et al. (in PTO 892 attached) disclose systems related to monitor power level and its corresponding technique for use in a wireless distribution system.

4. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to the New Central Fax number:

(571) 273-8300, (for Technology Center 2600 only)

Hand deliveries must be made to Customer Service Window,
Randolph Building, 401 Dulany Street, Alexandria, VA 22314.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony Thuan Nguyen whose telephone number is (571) 272-7895. The examiner can normally be reached on Monday-Friday from 9:30 AM to 7:00 PM, with alternate Fridays off.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TONY T. NGUYEN
PATENT EXAMINER

Tony T. Nguyen
Art Unit 2685
September 29, 2005